

A Survey of Growth Projections for the Indian Economy for the year 2000 A. D. and Some Implications for Crime and Social Tensions

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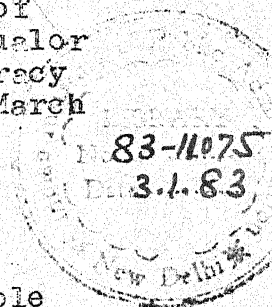
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"A steadily rising national is the best assurance of harmonious social and economic adjustments. There can be no lasting harmony in a nation in which competing groups and interests seek to divide a constant or shrinking national output". Letter of transmittal, President Eisenhower's report to Congress, New York Times, January 29, 1954.

"Growthmanship which results in undivided attention to maximisation of GNP can be dangerous, for the results are almost always social and political unrest. Therefore, increase in the GNP must be considered only as one component of a multidimensional transformation of society development goals must be defined in terms of progressive reduction and eventual elimination of squalor and inequality, of malnutrition and disease, of illiteracy and unemployment". Indira Gandhi, address to FICCI, March 25, 1972.

Though a plenty of population projections are available for the year 2001, only a few projections are available for the growth of the Indian economy as a whole in the year 2001. As distinct from 'growth', hardly any predictions have been scienti-

* I take this opportunity to thank Shri R.N. Haldipur for many helpful discussions and comments. Needless to add the usual disclaimer.



fically worked out for the 'development' of the economy. Admittedly, the latter exercise is rather difficult in view of wide scope for value judgments involved in it.

Even for growth projections there are plenty of problematic difficulties owing to the non-spontaneous, planned and sponsored nature of the phenomenon of growth in our economy. Since 'growth' (sustained and substantial increase in national income, a la Kuznets) is a planned affair, the projections will have to be based on a whole set of assumptions concerning economic policy, planning and mechanisms of implementation. As the Base Document on Futurology (Department of Science and Technology, Government of India) rightly pointed out, "The Challenge of 960 million people of the year 2000 A.D. is thus not merely a challenge to the scientists and technologists, it is a major challenge to the Indian political genius as well".

Thus the methodology for growth projections has to be based on the assumption that the government through planning achieves a given rate of growth (by bringing about needed social, economic and political mobilisation) and then one has to work out the implications of the chosen rate of growth, though these growth rates do not embody the effects of investments in human resources and institutional innovations.

The Draft Fifth Plan carries a particular growth perspective for the long-run (though not extending upto the year 2000 A.D.). Since it is well known, we do not include it in the

present survey. In the present paper, we briefly survey some major attempts at economy-wide projections for India of the year 2000 A.D. and bring out some of their implications for the crime situation and social tensions.

In Section I, we briefly present the results of a futuristic excursion by Surendra Patel and contrast his approach to that of F.A. Mehta, which we discuss subsequently in Section III. Before going on to do that, in Section II, we work out some implications of Patel's scenarios for social tensions and crime situation. In the Section on Mehta's projections, we also attempt to spell out some implications of his exercise on social tensions in India in the year 2000 A.D. In Section IV, we specifically focus on the employment scenario in the year 2000 A.D. and try to show its links with social tensions. In Section V we present a basically quantitative projections exercise and find it sterile for purposes of throwing meaningful light on the issues of social tranquility etc. In the last Section, we sum up some of the important conclusions of the paper.

I

A pioneering work in the direction of projections for the year 2000 A.D. is the one by Surendra J. Patel.* The central theme of this exercise is to spell out the implications of "an affluent India in an adult's lifetime", which is raised within 40 to 50 years from its present low level of living to the highest attained so far by the most prosperous of industrial nations. It is worthwhile to note, at the outset, that Patel's approach is vastly different from that of F.A. Mehta** (which we will review in the next part of the paper). While Patel translates the aspiration of becoming an affluent nation in terms of day-to-day recognisable idea of catching up with the most affluent industrial nation, Mehta clearly has a different perspective when he says that "There is no way in which Second India will ever catch up with the per capita incomes of the

* The India We Want: Its Economic Transition, Manaktalas, Bombay, 1966, pp. 223 & xxviii.

** Second India Studies: Economy, Macmillan, Delhi. 1976, pp. 169

advanced countries, even as the per capita incomes of these countries stand at present, leave aside as they will be by 2000 A.D." (P. 7).

Among many serious differences in the approaches of the two is the reliance they place on the national income figures currently available and used. While Mehta apparently does not question the methodological bases and, consequently, the comparability of such statistics, Patel attempts to look below the surface. By raising the well-recognised methodological issues in comparing national income statistics in countries as different as the U.S.A. and India, Patel tries to refathom the extent of economic disparities between India and the United States. On the basis of such methodological arguments (pp. 57-66), he concludes that "the economic distance between the richest and the poorest countries is not forbiddingly large. And the task of narrowing it, even at its widest, needs no more than half a century. The pathetically pessimistic prospects which some people outline for the poor countries have thus little basis in fact" p. 66). Accordingly to Patel's calculations, the real economic distance between the two countries is not in the ratio of 1 to 28 as suggested by the conventional comparison of per capita income levels, but only in the range of 1 to 10 gap.

The economic transition needed to cover up the gap of this magnitude, according to Patel, would involve the following: "raising national income some sixteen times, or at an annual growth rate of about 7 per cent for 8 to 10 Five Year Plans; with an expected decline in birth rates the per capita income towards the end of the period nearly equalling the present American; a five fold increase in agricultural production to be brought about through major tenancy reforms and through raising chemical fertiliser (in terms of plant nutrients) output to over 20 million tons during the next 20 to 30 years; and in line with it expanding the supplies of all other modern inputs (improved seeds, medicines, insecticides, pesticides, new techniques, etc.); organising the production and distribution of all these new inputs on a socialist basis; forty-fold expansion of industrial output with "heavy" industries rising nearly ninety times; the extension of public ownership to 80 to 90 per cent of the industrial assets; attainment of Western European levels of educational enrolment by 1980, and the American levels by 2000 or earlier; and to achieve these goals, raising the real gross capital formation from about Rs. 26 billion in 1960 to Rs. 125 billion by 1980 and Rs. 500 billions by 2000, or from over 1/6 of national income now to around one-fourth later" (p. viii).

It can be seen that among the evolving mechanisms for the transition, Patel visualises not only increased rates of savings, capital formation, industrial outputs and training of manpower but also a realignment of socio-economic forces and institutional changes. He does not seem to believe that no real progress is possible without a fundamental and immediate reorganisation of social relations. His recipe seems to be "to consolidate the strong points, to overcome the weak points, to fill in the gaps, and to advance simultaneously towards a faster economic and social development and the creation of a fair and an equalitarian society" (P. 207, Epilogue by Krishna Ahuja in S.J. Patel, op. cit.)

In contrast to the analysis presented by Patel in terms of institutional openness, Mehta's analysis is more strictly confined to narrow economic variables, except his assumption that in 2000 A.D. India will be a "democracy based on pluralism" which will need to recapture the spirit of austerity and the spirit of charity. One can see how subjective values correlated to the unfolding reality of India of 2000 A.D. (even in terms of Mehta's own analysis) are sought to be substituted for hard socio-economic analysis. His sociological, political, intellectual and technological "revolutions" are not integrated with the ana-

lysis of the behaviour of the economic variables and appear like results of a flight of fancy. However, as far as "pure" economic variables are concerned, they have been methodically projected into the future.

Before we turn to the projections arrived at by Mehta, let us detain ourselves with a brief excursion into the implications of Patel's scenario for social tensions and social harmony.

II

The transition period in Patel's analysis is a period of intense social and economic mobilisation during which large scale shifts of men and materials will take place over sectors and regions. Such a period is fraught with many tensions because many realignments take place. However, if the process is undergone through careful social and economic planning (as the process must of necessity be in a country like India), the tensions need not erupt into chaos or breed dysfunctionalities. However, in order to obtain such orderly movement of the process, one has to introduce significant widening of the parameters of planning beyond strict economic aspects to include social, cultural and socio-psychological aspects. It is true that this is easier said than done and in reality many conflicts and strifes are

bound to dot the period of transition. The nature and magnitude of such tensions is a function of many impoundables. What, in any case, can be done is to identify some of the important sources of such tensions and conflicts. This exercise suggests areas in which progress needs to be monitored with a view to work out implications for social tranquility.

Employment to those who have already entered the labor market and are yet to find means for stable and adequate income as well as the availability of income-earning opportunities to the new entrants to the labour market in both rural and urban areas is closely connected with crime and tensions. The rate and pattern of growth envisaged by Patel (i.e., 7 per cent per annum rate of growth with emphasis on heavy industries) in itself is quite attuned to meet the needs of giving meaningful participation to the masses in economic activities. However, the nature of industrialisation (in terms of products, location, size of individual units and technology) has to be specifically designed to suit the manpower balance, income distribution, over-growth of metropolises and the vast existing size and prospective scope for strengthening and expanding artisans and household industries in order to deliver not the percentage growth points alone but also the social pay-off expected

of it. It implies that social consequences of various patterns of industrialisation must enter as conscious choice and policy variables in the plans for industrialisation.

In terms of Patel's model, personal incomes cannot be adequate to provide a minimum standard of living during the transitional period. Moreover, the policy and complexion of the unfolding regime can also be expected to emphasize the role of public consumption to continually expand to meet the needs of social services like health, education, sanitation, water supply, housing etc. in order to supplement the personally provided quantum of consumption of goods and services. In fact, given the Indian situation there is a paramount need to see that personal incomes cease to be the determinants of the availability of health care, education, hygienic water supply, sanitary environment and decent housing both for the less well-to-do and the well-to-do. Freeing the quantum and magnitude of social services of the personal incomes will imply reducing the pull on their limited availability presently exercised by the higher echelons of society and thus create an essential condition for the successful assumption of the role of purveyor of public consumption by public authorities.

In the absence of such a public supply of essential ingredients of a tolerable living standard, disparities will become all the more explosive breeding individual and group-based

tensions and not infrequently violence too. Thus continuous expansion of the role of public consumption with a mechanism preventing its cornering by the better-off sections is a precondition for social harmony.

How can one find resources for such a massive programme of socialised consumption? Obviously normal, conventional fiscal and monetary measures are not equal to the task. Western welfare State models had a base in economies of high productivity and sustained growth based on unilaterally favourable internal and external conditions. Obviously, India has no such prospects. Hence the base for such expanded level of public services has to be found in a growing, buoyant and restructured economy in which social and economic developments are concomitant and complementary.

Patel's model of transition of India to "affluence" by the turn of the century postulates simultaneous social and economic advance. It implies that without the two marching together, the end of the tunnel can hardly be seen. Therefore, it can be inferred that simultaneous social and economic advance is an essential precondition for social harmony. For this purpose, Patel outlines the changed nature of agrarian relations (i.e., major tenancy reforms etc.) which would be an essential precondition for agricultural development. Similarly, in the field of industries, a forty-fold expansion of output visualised by the

year 2000 A.D.; is accompanied by a postulation of public assets. Such a character of agricultural and industrial ownership of 80 to 90 per cent of industrial development not only contains inequalities but facilitates fair distribution of the fruits of development. It is this perspective which is basic to the maintenance of peaceful and harmonious social relations.

III

As a part of their Second India studies, the Ford Foundation, New Delhi, got a study made by Dr. F.A. Mehta on the growth of the aggregate economy. This study has presented four growth scenarios based on different rates of growth of income, viz., 3 per cent, 5 per cent, 7 per cent and 9 per cent average compound rate of growth of GDP. For the purpose of each growth scenario, the economy has been divided into six sectors like primary production, industry, power generation, construction, transport and other tertiary services. The time period upto 2000 has been broken into six sub-periods, corresponding to the periods of five year plans. As the growth rates are taken as given, the savings ratios are variables corresponding to each growth rate. Even with a certain rate of savings, the resulting growth rate is a function of the sectoral allocation of the savings and average capital-output ratios for these six sectors. With certain assumed average/

output ratios, the sectoral allocation of total savings has been obtained. In an aggregate growth exercise, it is obvious that the sectoral rates of growth must be mutually consistent.

Given our population growth, need-based food requirements can be determined. It has been shown by Dr. V. M. Rao (in his study on Food in Second India, sponsored by Ford Foundation, New Delhi, 1975) that if the Indian economy grows at about 6 per cent per annum, the aggregate demand for food by the turn of the century is likely to be four times the total consumption of food in 1964-65; this would consist of more than five-fold increase in the demand for "other foods". In the absence of direct State intervention, even an increase of this order will leave about a fifth of population in low-income brackets who will be unable to obtain adequate food. Implications of this finding for social tensions are too obvious as hunger is the most powerful spur to desperation. Thus, in order to eliminate mass hunger, India needs along with effective production and distribution policies, a four per cent annual rate of growth in food output and 5.5 per cent rate of growth in other foods. As about 750 million people will then live in about 4.80 lakh villages, the need for the growth of small and agro-based industries is obvious if unemployment and low-productivity and consequent low-standard of living and welling-up frustrations are to be overcome.

As the detailed break-down of agricultural performance and its quantification are more a function of policy-choices and policy effectiveness, a topic too complicated to be dealt with in this kind of a survey, we just mentioned some notable aspects of medium growth rate assumptions.

As far as the developments in the field of agriculture are concerned, their predominant rural character cannot be denied. Presently, there are over 3.5 lakh villages with a population under 500. These rural people based on agriculture have not only to contribute the bulk of agricultural growth but must also be made the focal points of rural regeneration for improved living. The existing settlement pattern is too dispersed and mini-sized to be effectively communicated with. Deliberate policies of scientific settlement pattern are essential to make these rural people partners in progress. Rural tensions derive considerably from the overlordship of the bigger cultivators and landlords. Apart from land reforms, institutionalisation of credit and market, etc., bigger and scientifically planned rural settlements are essential for effective communication and social interaction which in many ways go to increase the social defence available to the weaker sections. It also increases administrative capability to provide retroactive and proactive inputs for social

harmony.* The more basic point arising from the plea for scientific settlement policy is the dependence, particularly in the coming decade, of social tensions on increasingly newer kind of factors, exclusion from or peripheral inclusion in social communication being one of such factors.

Apart from the nature of agrarian relations, the regional aspects of agricultural development too are closely connected with the emerging social balance in the agricultural sector. Agricultural development has a tendency to get focussed in irrigated and better climatic regions. Continuation of such trends may not only worsen the lot of unirrigated and poor resource regions but may create increasing population pressures (though natural factors and migration) in the thriving regions. This may adversely react on the performance of agriculture even in the better-endowed regions. Hence emphasis on dry farming and general improvement of the economy of the backward regions is critically important for preserving social harmony.

Temporal fluctuations in the fortunes of agriculture may also endanger social tensions and stresses. It is difficult to visualise that by the end of the century we would have

* See The Causes and Nature of Current Agrarian Tensions, Ministry of Home Affairs, Research and Policy Division, Government of India, August, 1969 (Mimeo) for detailed description of measure needed to contain rural tensions.

overcome fluctuations in agricultural output and droughts. However, what can and must be acquired is the capacity to minimise the ups and downs and, more important, to minimise, localise and overcome their consequences through a series of short and long-term measures and through contingency planning. Special efforts to protect the drought-prone areas and sections of population more exposed to such calamities are essential even from the point of containing probable trouble-points.

Apart from dealing with the consequences flowing from the continued importance of crop-soil-rainfall zones, there are some aspects deriving from the rate of population growth and urban-rural balance which are critical from the angle of tensions and tranquility in rural areas. For many reasons, the pool of young entrants seeking employment is likely to be larger in rural areas. Evidence from NSS data suggests a higher rate of growth of population in rural India than in urban India. Then, the existing bigger population base of rural areas will make for larger absolute numbers. It means the pattern of rural and agricultural development must be so designed as to be able to productively absorb this bigger addition to the workforce.

This task is made more imperative by the big absolute size of the urban population in India. The urban population base of 109 millions (1971) and its natural rate of growth (even with

effective adoption of family-size limitation yielding a less than 2 per cent growth rate) will add naturally to urban population numbers large enough to require substantially high rate of growth of secondary and production-oriented tertiary activities in order to absorb them in gainful employment. It implies weakening of the urban pull factors for the rural labour force, because urban areas can, by and large, provide the needed labour force internally.

Even in industry, a number of alternative models about the pattern of industrial 'growth' can be postulated, which can be defended or attacked in terms of their policy implications and social consequences, (again too detailed a task to be attempted here). We take the simple assumption of continuance of the current industrial structure (which may well be considered unrealistic) and report the outcomes of the four alternative growth scenarios for the economy as a whole. Table on the next page presents details of these annual compound rates of growth for the year 2000, dividing the entire period into six separate sub-periods.

As can be seen from the Table I (Alternative Growth Scenarios), even on the lowest growth profile, in the year 2000 our national domestic product can exceed one lakh crore rupees, if we are able to generate savings to the tune of nearly 70

TABLE I

Alternative Growth Scenarios

A. C.I.F. Annual Growth Rate: 3.07 per cent

(Rs. Crores)

	Base Year 1973-74	Projected Period (Each pd. 5 years except pd III which is of two years)				
		I	II	III	IV	V
1. Terminal year GDP	45,050	50,798	58,243	61,540	71,903	84,775
2. Growth Rate for the Economy	-	18.59	14.78	5.67	17.03	17.60
3. Growth Rate for Industry	-	15.33	18.77	7.12	20.23	21.67
4. Total Savings	-	19,281	27,025	12,214	38,776	50,620
5. Total Industrial Employment (in millions)	16.06	12.62	22.11	23.63	28.46	34.63
						42.13

B. Growth Rate: 5.01 per cent

1. Terminal Year GDP	45,050	52,247	67,420	73,307	94,339	123,805	168,003
2. Growth Rate for the Economy	-	20.48	24.00	9.41	28.73	30.70	35.70
3. Growth Rate for Industry	-	27.63	37.01	13.63	40.76	43.56	50.37
4. Total Savings	-	31,368	45,869	23,469	77,091	115,836	176,794
5. Total Industrial Employment (in millions)	16.06	20.50	28.09	31.92	44.77	64.47	96.64

C. C.I.F. Annual Growth Rate: 7.01 per cent

1. Terminal year G.D.P.	45,050	57,799	78,671	89,471	126,004	182,772	278,599
2. Growth Rate for the economy	-	28.22	36.34	13.63	40.30	44.88	52.43
3. Growth Rate for Industry	-	37.01	53.36	18.81	53.86	54.28	71.57
4. Total Savings	-	42,239	75,613	39,674	135,396	226,202	383,309
5. Total Industrial Employment	16.06	22.00	33.85	40.22	61.88	95.47	163.79

D. C.I.F. Annual Growth Rate: 9.02 per cent

1. Terminal year G.D.P.	45,050	58,605	82,617	95,651	1,49,712	2,48,273	4,67,647
2. Growth Rate for the economy	-	30.06	40.30	15.77	55.97	65.46	97.36
3. Growth rate for Industry	-	40.26	53.86	19.90	72.34	84.24	104.67
4. Total Savings	-	46,041	83,390	48,139	1,98,074	3,92,006	8,77,496
5. Total Industrial Employment (in millions)	16.06	22.52	34.65	41.54	71.59	131.90	269.27

thousand crores in the last five years of the century. Employment implications of this exercise at over 42 million are too modest in view of even the lowest population and urbanisation growth estimates. Hence the need, on the one hand, for a step-up in the growth target and, on the other, for changes in industrial structure and technology to employ a larger number of people in the industrial activities. The low-profile, which is nearer to our performance so far, also spells out the social tensions inherent in a slow-growing economy. As the current growth-record has been the outcome of large-scale state intervention through planning, it needs to be emphasised that even repeat performance will require much greater State effort through far more effective planning than has been the case so far. This is because now the scope for taking in the slack is greatly reduced. In case even this level of performance is not obtained, the resulting tensions will impose heavy law and order burden, the budgetary resource mobilisation implications of the choice may not be much different if higher growth were attempted.

The 9.02 per cent growth profile promises more than four-times larger national income in the year 2000 A.D., though requiring about 8.77 lakh crores rupees of investment during the last five year plan ending in 2000 A.D., i.e., about 2/5

of the terminal year income. This magnitude of effort will generate about 270 million industrial work opportunities. With suitable changes in product and technology-mix, the employment performance can be improved still further.

The modest growth rate profiles (5.01 per cent and 7.01 per cent) naturally give intermediate quantitative positions as can be seen from Table I. Their importance lies in showing the big absolute level of difference in outcome. For example, industrial employment in the terminal period is 96.64 millions with 5.01 per cent growth and nearly 164 millions with the higher growth rate of the two. In terms of social consequences and reduction of tensions, the outcome is very significant. Because the effort and sacrifice spared in the lower rate of growth would have to be diverted to maintenance of social order and tranquility with additional 70 million unemployed in the case of the lower growth rate. It is easy to see that society does not gain respite simply by setting its sights low, owing to the force of objective factors-like population growth, urbanisation, rise in the size of the work force and unemployment. In these exercises, we are not in a position to make guesses about the extent of disparities because the exact institutional pattern (role of private sector, kind of farm organisation, tax structure, fiscal and monetary policies etc.) giving the growth rate has not been assumed. However, it can safely be said that

given the growth of disparities over 1950-1976, special measures are required for correcting the imbalances. Around the year 2000, the disparities are bound to become all the more indefensible because by then, we would have left behind us nearly half a century of planning for development. Thus, it can be said that continuation of the present institutional pattern will give rise to greatly indefensible inequalities, with serious consequences for law and order administration. Quantification of such tensions in terms of crime rate is an airy-fairy exercise, mainly because these tensions are reducible through conscious social policy and the expenditure on law and order can easily be diverted to promote higher growth with greater social justice.

Maita has not forgotten the equity and social justice dimension. He has projected what he calls "Growth-cum-Distribution Model" on the basis of all the four growth-scenarios which he has earlier visualised. This exercise is based on a simple formula that "every one per cent rate of growth in the per capita GDP must be accompanied by at least twice this rate in the per capita GDP of the bottom 40 per cent" (p. 91).

This arithmetic of growth rates with chosen (arbitrarily) equalisation factor yields the following results:

(1) The 3 per cent growth-profile enables the bottom 40 per cent of population to have a consumption level equivalent to Rs. 500/= per annum at 1972-73 prices (the minimum level) by 1996-97 only. Obviously, as a consequences "the principles of both growth and equalisation fail". It can be seen that if the equalisation bias was not introduced, how the situation will worsen due to non-availability of this minimum consumption level even by the turn of the century.

(2) At 5, 7, and 9 per cent compound rates of growth the bottom 40 per cent will cross the poverty barrier in 1985-86, 1981-82 and 1980-81 respectively. In fact, with the 7 per cent performance, the lowest 40 per cent reach the level of the remaining population by 1996-97. It is also maintained by Mehta that with the 9 per cent growth scenario's operation, "unemployment will almost certainly have disappeared as with such a major rate of growth sustained over such a long period of time" (p. 95). Such a high level of performance is dubbed "out-Japaning Japan" by Mehta, though it will leave India a long way below the U.S. level; in fact, even more than one-third of the developing countries are around or above this level already.

Mehta's projection of distributional aspects seems to rest on shaky foundations. The biggest snag is that how his "doubling-principle-of-equalities" is going to be realised, through what kind of principles, policies, measures etc., is not specified. It appears as though income-distribution is like putty-clay; one can give it any shape one likes, provided enough has been produced to begin with. As our discussion of Patel's projections brought out earlier, a massive redistribution so essential to contain and reduce the vast disparities requires simultaneous social and economic development changing the structural and institutional face of the economy as development takes place.

The disparities leading to social unrest and tensions aspect is grossly oversimplified by Mehta's procedure of dividing the entire population in two groups only viz., the bottom 40 per cent and the top 60 per cent. As the analysis in the Draft Fifth Plan in terms of many more fractile groups brought out, many significant dimensions of disparities are discovered by a more detailed income/consumption grouping of the population.

Just as the institutional aspects impinging on the distribution of social power fail to surface in terms of Mehta's analysis, hardly anything is noticeable

on the role of social consumption in general and for the less well-to-do sections in particular in terms of his projections for the year 2000 A.D.

As a result of the abovementioned factors, not much can be inferred about the disparities - social tensions connection on the basis of Mehta's projections. However, a more concrete dimension of the social tensions situation can be seen in terms of the emerging employment situation in the year 2000 A.D.

IV

The story about unemployment begins with inadequacy of reliable estimates on the magnitude of unemployment. In 1971, the Committee on Unemployment's estimate put the number at 18.7 million - 16.1 million in rural areas and the rest in urban centres. In 1976, the Employment Exchange figures are about 10 million, of which a little less than a half consist of educated unemployed.

On the basis of Ambennavar's estimates (Second India Studies: Population, Macmillan, New Delhi, 1975), the labour-force will grow from 190 millions in 1961 to 420 millions by 2000 A.D., i.e., by about 230 millions. Providing employment to this big increment, along with removal of the backlog of unemployment of about 20 million and improving the level of productivity of the underemployed, are, by all reckonings, stupendous challenges. For example, if about Rs. 10,000 were needed for creating gainful work-opportunity for one worker, providing full-employment by 2000 A.D. would require an investment of the order of Rs. 250 thousand crores. We have seen that the perspective worked out by Patel, involving a sustained growth rate of 7 per cent, necessitates an investment of the order of Rs. 500 thousand crores by 2000 A.D., which will be around 25 per cent of the prospective national income. Given the institutional restructuring and mobilisation suggested by him, full employment in 2000 A.D. falls within the realm of possibility. We have also seen in Table I that, even according to Mehta's calculations in terms of a 7 per cent growth scenario, total savings during the five year period ending, with the year 2000 A.D. will be of the order of over Rs. 383 thousand crores. Thus, it can be seen that savings needed for full employment can be generated provided adequate growth of national income is achieved.

However, growth and availability of savings are not sufficient to guarantee full employment for the labour force.

It also depends on the pattern of development, on the sectoral and inter-industry composition of output, scale of production units, technology (capital and labour intensities, construction period etc.) and locational pattern of economic activities. For example, imitative industrialisation (in terms of products technology, management and spatial concentration) which we have, by and large, witnessed so far, cannot meet the needs of creating work and income opportunities on the scale required. Then, strategy of agricultural development in our context has to be based on higher labour-intensities than are prevailing presently. It means modernisation of inputs and farm practices has to be based mainly on new and scientific "objects of labour" which increase the effectiveness of land and labour and only marginally on the introduction of sophisticated "means of labour" which can reduce the need for labour. Then skill-intensity of agricultural labour has to be increased much more than equipment-intensity of work. It may be noted that compared to Japan and Egypt, labour-intensity of Indian agriculture is way behind.

Thus employment and earnings to the masses and consequent reduction in disparities are contingent upon both a high and sustained rate of growth coupled with detailed selective policies about the pattern of development. That would be the situation in the absence of such an employment-thrust development cannot be precisely indicated except that in a general way one may state that the greater the short-fall the worse the situations with

respect to unemployment and disparities (without, of course, postulating any one to one, proportional relationship). It is again obvious that employment and disparities are the variables most closely bearing on the social tensions and crime scenario, more so when the phenomenon of partial and slow growth worsens both the absolute and relative position of the large majority.

V

Apart from Surendra Patel's and the Ford Foundation Projections which I have reported in the preceding part, I could obtain one more private study on projections of income growth for the year 2001. The results of this private, unpublished study are presented below.

Table II presents four projected levels of national income at 1960-61. From the standpoint of futuristic view of real economic growth and welfare per capita income projection is of crucial significance. The per capita income projection is definitionally based on national income projection and population projection. Since there are four views underlying income-projection and population projection respectively, their various possible combinations can yield as many as sixteen views underlying

per capita income projection. The sixteen elements represent sixteen different angles from which per capita income can be viewed, each yielding a single level of income per capita. On this format, we have prepared per capita income estimates for different years presented in Table III. It may be noted that for each year, the range of variation in the size of income per head is defined by two limits, which shows that the range is wide, because the degree of variability in our assumptions is high; it varies from extreme optimism to extreme pessimism. For reference and operational purposes, we have calculated an arithmetic mean of all possible levels of income for each year; these average figures are placed at the bottom of each box. It shows that other things remaining constant, India's real income per capita (at 1960-61 prices) may increase from Rs.348.6 in 1971 to Rs.421.7 in 1976, Rs.526.6 in 1981, Rs.667.8 in 1986, Rs.861.5 in 1991, Rs.1124.4 in 1996 and Rs.1498.7 in 2001 A.D. This means that our real income per head may increase three and half time in course of the period of next two and a half decade, i.e. a cumulative growth rate of about 5 per cent per annum.

There may be an upward bias in our estimates presented above. The upward bias results from the incorporation of a probable 10 per cent growth rate in national income as one of our views. If we drop this view of income growth from our assumption, we find that India's per capita income in 2001 A.D.

will be about Rs. 896. If we drop the extremely optimistic views not only with regard to income growth but also with regard to population growth, we find that the per capita income for 2001 A.D. moves down to about Rs. 832. If we drop further even the moderately optimistic views with regard to income and population growth, the per capita income at the turn of the century is further revised down to Rs. 625. The more optimistic views we drop, the more conservative become our per capita income estimates.

The element of real optimism, without qualifying it with respect to degree, consist in that we have postulated a steady rise in the level of per capita income. This implies that in future years to come, national income will grow faster than population. In fact, we believe though population growth per annum may vary somewhere between 1.5 per cent and 2.5 per cent, yet national income growth per annum may vary somewhere between 3.5 per cent and 10.0 per cent. It follows from our assumptions that the per capita income growth per annum may vary somewhere between 2.0 per cent and 7.5 per cent. These rates may appear quite high because these are cumulative rates and because these rates have not prevailed on a sustained level in the past. If we go by the record of our past performance, say, over the period of two decades (1951-71), India's per capita income in 1960-61 prices cannot exceed Rs. 550 by the year 2001 A.D.

However, we are hopeful that India in near future will be able to break the low level equilibrium trap such that with regard to per capita income growth a break from the past trend may be established. In other words, some sort of a theory of "great spurt" (Greschenkron) lies behind our per capita income projection in this exercise.

Table II

PROJECTED LEVEL OF NATIONAL INCOME
AT 1960-61 PRICES

(In Rs. crores)

	1976	1981	1986	1991	1996	2001
View I	30371	48911	78771	126861	204309	329041
VIEW II	25837	35397	48495	66422	91031	124720
View III	24647	32212	42100	55022	69891	91227
View IV	22289	26342	31133	36796	43490	51401

Table III

PROJECTED PER CAPITA INCOME (in Rs.)

at 1960-61 prices

1976

Views on national income	:	View I	View II	View III	View IV
View on Population	:				

View I	516.1	489.0	418.8	378.7
View II	493.7	420.0	400.7	362.3
View III	493.4	419.7	400.4	362.1
View IV	483.8	411.6	392.6	355.1

Average 421.7

1981

Views on National Income	:	View I	View II	View III	View IV
Views on Population	:				

View I	769.9	557.1	507.0	414.6
View II	715.9	518.1	471.5	385.5
View III	708.1	512.5	466.3	381.4
View IV	691.0	500.0	455.1	372.1

Average 526.6

1986

Views on National Income	View I	View II	View III	View IV
Views on Population				
View I	1154.6	710.8	617.1	456.3
View II	1049.1	645.9	560.7	414.6
View III	1015.5	625.1	542.7	401.3
View IV	979.2	602.8	522.2	387.0

Average: 667.87

1991

Views on National Income	View I	View II	View III	View IV
View on Population				
View I	1739.9	911.0	754.6	504.6
View II	1549	811.5	672.2	449.5
View III	1456.3	762.5	631.6	422.4
View IV	1387.5	726.4	601.8	402.4

Average: 861.5.

1996

Views on Population	Views on National Income	View I	View II	View III	View IV
	View I	2633.2	1173.2	900.7	560.5
	View II	2305.7	1027.3	788.7	490.8
	View III	2088.8	930.7	714.5	444.6
Average : 1124.47					

2001

Views on Population	Views on National Income	View I	View II	View III	View IV
	View I	3999.0	1515.8	1108.7	624.7
	View II	3449.8	1307.6	956.4	538.9
	View III	2995.9	1135.5	830.6	468.0
	View IV	2785.4	1055.8	772.2	435.1
Average : 1498.7					

From the above exercise it can be seen that not much useful purpose can be served by making projections about future income which are based simply on quantitative assumptions about growth rates, savings ratios and input-output and capital-output ratios. For purposes of drawing policy implications and action guidelines, detailed policy-mix assumptions and administrative mechanisms and effectiveness assumptions with their counterpart of growth rate assumptions are required and not simply faith and hope in some sort of a theory of great spurt. Needless to say, this is a big and ambitious exercise, but it is certainly needed in order to throw light on lines of advance action so essential if we are not to be caught unawares in the turmoils of the future. The two studies discussed earlier provided some elements of such an exercise.

VI

CONCLUSIONS

We can briefly sum up the major conclusions of the foregoing as follows:

In view of the difficulties involved in making growth and development projections, not many such projections have been made. We have surveyed three attempts at such projections in the present paper and brought out some of their implications for crime and social tensions scenario.

One thing which comes out fairly clearly from the various projections of the growth of the economy and population is that a fairly rapid rate of growth of the economy is an objective necessity, particularly for a country like ours with its demographic pressures, historical nature of backwardness, the rising level of expectations, nature and pace of urbanisation (or, metropolitanisation) and extreme disparities. In fact, one can be a little more concrete and say that if we just succeed in obtaining a repeat performance on the growth front of what we have achieved in the preceding three decades or so, we will hardly be able to contain the impending crises, sharpened additionally by international demonstration effect. A slow growing economy (around three per cent rate of growth of per capita incomes) not only fails to bring about cheer to families with low-standard of living and relatively heavier incidence of unemployment-unemployment and increases disparities, but restricts the capacity of the State to provide the public amenities and socialised consumption even on the minimum needed scale.

An overall rate of growth of about three per cent will imply an even slower rate of growth of agriculture and thus may fall short of the hunger-level. In the field of industries such a growth rate will cause wider failure: inputs for modernising agriculture, wage-goods for the lucky among the

rural and urban labour force who have assured flow of purchasing power, jobs for the teeming millions, equipment etc. for social overheads, growth of small towns through a scatter of small and modernised household industries, prevention of the over-growth of megapolises, balanced regional development; none of these avowed ends of rapid industrial development can be obtained at a 4 to 5 per cent rate of growth of industrial output. The implications of this growth rate for the extent of capacity utilisation in the already installed heavy and basic capital goods industries too are not encouraging because it cannot generate adequate demand for either fresh capital construction or for modernisation and replacement. We have spelled out the implications of various growth rates for employment generation. If full employment remains a far cry for rates of growth lower than 7 per cent, it can easily be visualised what massive proportions unemployment will assume at a three per cent growth rate. Taking an overall view, it can, therefore, be maintained that on an economic plane, a three per cent or lower rate of growth can be seen as causing severe socio-economic and political crises. The crime and social tensions implications and equivalent policing needs in such cases may well be frightening and hardly a manageable and pleasurable task for a quantifier.

While 7 per cent or higher rates of growth along with certain policies may be able to provide answers to many of the fundamental problems of Indian economy, society and polity, its implications for crime and social tensions are a function of a number of non-economic variables. Before we broach that subject, it may be useful to turn to the 5 per cent growth scenario.

It appears that a rate of growth of around 5 per cent may enable the Indian economy to remain within manageable limits with respect to its major socio-economic problems. Since this rate is considered capable of giving the physical capacity to meet the challenge of food, jobs, supply of essential wage-goods, regional dispersal of economic activities, greater socialised consumption and reduced level of disparities, the social tensions scenario will increasingly become a function of the pattern of development and specific socio-economic policies. This argument underlines the possibility of attaining growth rates in the region of 5 per cent through sharply different kinds of policy-mixes. Hence crime and social tensions in such situations become dependent on policy choices concerning strategy of development in general and its specific sectoral forms with bearing on job opportunities, income and wealth disparities, regional balance, size and inter-class allocation of public services, technological innovations, nature of education and other economic variables having a bearing on social tensions.

Thus the exercise of projections for the economy enables us to see the likely pattern of some basic socio-economic indices having a general bearing on social tensions and crime proveness. However, it will be naive to suggest that there is any one to one relationship between these socio-economic variables or the level of economic growth. While it is true that economic advance takes care of some sources of social tensions and crimes, it has also been observed that higher level of economic growth itself gives rise to some new sources of crime and tensions. In fact, the experience of many developed countries shows that the crime rate has constantly been going up in these countries as their economy has been surging ahead. For example, it has been maintained that in the United States "yearly increases in crime make dramatic headlines, and are considered as inevitable as death and taxes". In 1974, including only the seven categories of serious crime (murder, forcible rape, robbery, aggravated assault, burglary, larceny theft, and auto theft) that the FBI uses to compute its crime index, there were 480 crimes for every 10,000 persons".* Therefore, projections of social tensions and crime have to probe further into many other aspects and in this exercise, apart from micro-specific studies, experience of other countries also

* David H. Bayley, "Learning about Crime - The Japanese Experience" The Public Interest, No. 44, Summer, 1976, p. 55.

should be studied, at least in order to pick up relevant hypotheses.

Just as crime cannot necessarily be inversely related to economic growth, so is the case with social modernity, urbanisation etc. It is true that in developed socialist countries crime rate markedly nose dives, but even among the developed, capitalist countries, there are sharp differences in the rates of growth of crime and its prevailing levels. For example, David H. Bayley, who has authored a significant study entitled "Forces of Order: Police Behaviour in Japan and the United States" (University of California), pointed out that "there are over four times as many serious crimes per person in the United States as crimes of any sort per person in Japan The difference in public safety between Japan and the United States can be experienced and felt; it makes a difference in the way people live."* In explaining this difference, he rejects the influence of factors like social modernity, congestion, the criminal justice system, traditions of violence etc. and underlines the relevance of the greater vitality of informal social controls over individuals, legitimacy of authority, assumption by informal groups of responsibility for maintaining social order, remaining intact of a larger proportion of families in Japan than in the U.S.A., not the greater severity of Japanese criminal justice system but its greater certainty, absence of any sizeable minority groups and the consequent greater ethnic homogeneity of the Japanese people, lower social

* David H. Bayley, op. cit., pp. 55 and 57.

atomization in Japan, etc. Another significant variable pointed out by Bayley is the spiral of increasing crime and decreasing official efficiency in crime detection and prevention because "formal systems of control work best when they are needed least" and its converse.

What is implied for the Indian scene in the foregoing is obvious. Economic growth and per capita income and wealth have something to do with social tensions and crimes. After all, it would be rather difficult to maintain that affluence as such makes people criminal or exacerbates social tensions. These will depend on the pattern of development and the resulting quality of life which have a lot to do with the kind of path of development and the socio-economic policy-mix which is relied upon for achieving modern, non-spontaneous, sponsored economic development. It is equally clear that in the absence of economic development, social tensions and crime cannot be contained because the major physical whereabouts of social harmony and tranquility are provided through and in the process of economic growth. In brief, a certain rate of growth of the economy is a necessary but not a sufficient condition for social harmony and prevention of crimes. Hence the projections for the economy-wide variables throws some limited light on future tension-points and needs, methods and magnitude of policing. A more sharply pointed picture can be obtained on the basis of a series of really multi-dimensional, inter-disciplinary studies.